9.0 Determination of Eligibility of Archaeological Resources

9.0 DETERMINATION OF ELIGIBILITY OF ARCHAEOLOGICAL RESOURCES

The Phase II investigation focused on evaluating the eligibility of several resources identified during the Phase I survey within the LOD. The resources considered during the Phase II work included: (1) evidence of buried prehistoric features in Area 1; (2) an 80.0-meter by 40.0-meter scatter of mid-nineteenth- to mid-twentieth-century architectural and domestic refuse located in the vicinity of the location of mid-nineteenth- to mid-twentieth-century outbuildings in Area 2 and Area 6; (3) an approximately 121.9-meter long by 45.7-meter wide section of Area 5 containing Locus 2, a cluster of prehistoric artifacts; (4) a dense concentration of brick, designated Feature 3, and associated mid-eighteenth- through early-twentieth-century ceramics, bottle glass, cut and wire nails, and other debris at the western end of Area 6; and (5) a 20.0-meter by 40.0-meter area of lithic debris recorded in the southeastern corner of Area 7. The eligibility recommendations for the prehistoric and historic archaeological resources will be discussed separately below.

9.1 Prehistoric Archaeological Resources

The archaeological investigation of the 1.25-hectare LOD in Area 1 identified prehistoric cultural materials temporally associated with Woodland I and II period occupations deposited within the plowzone, feature fill, E-horizon, and the Bt-horizon. The prehistoric ceramics collected included fragments of Accokeek (1000 to 200 B.C.), Dames Quarter (1000 B.C.), Hell Island (600 B.C. to A.D. 800), Minguannan (A.D. 900 to 1600), Mockley (600 B.C. to A.D. 800), Popes Creek (1000 to 200 B.C.), Townsend (A.D. 900 to 1600), Wolfe Neck (600 B.C. to A.D. 800), and several untyped sherds. Projectile points included quartzite and a rhyolite Rossville Stemmed variant (520 to 100 B.C.), a chalcedony Waratan Corner-Notched (1000 B.C. to A.D. 1000) point, a chert Jack's Reef Pentagonal point (A.D. 500 to 1000), and a jasper Levanna Triangle (A.D. 1000 to 1500). Three untyped point tip fragments made on argillite, chert, and jasper were recovered as well. Bifaces, cores, scrapers, unifaces, and utilized flakes represented other flaked tool types found in the LOD of Area 1. Ground stone tools included hammerstones and a sandstone shaft abrader. In addition to the prehistoric ceramics and lithic artifacts, the archaeological investigation in the Area 1 LOD recovered a large number of FCR, a

possible bead, a quartz crystal fragment, cobble tools, and roughly formed blanks of argillite, quartz, and quartzite.

This diverse artifact assemblage reflects the variety of activities that likely occurred within Area 1. As Griffith pointed out in his overview of prehistoric ceramics in Delaware, “Our ceramic research in the future must proceed with the clear understanding that the subject matter is finite, yet the scope is unbounded” (Griffith 1982:51). This is certainly the case with the ceramic assemblage recovered in the Area 1 LOD. In general, the ceramic collection represents the remains of vessels used for cooking and storage of foodstuffs. No hearth features were identified in the Area 1 LOD excavations, but substantial quantities of FCR, several charcoal concentrations, and the wealth of ceramic sherds suggest that cooking activities did occur in the LOD. Feature 5/5A yielded a small quantity of Accokeek sherds from a possible nut-storage pit. No direct evidence linking ceramic use with food processing was observed in the collection.

The varied ware types found in the ceramic collection attest to the complexity of ceramic distribution patterns across the Delmarva Peninsula. The presence of Minguannan pottery, commonly found in northern Delaware; Hell Island ware, primarily distributed in central and northern Delaware; Townsend ceramics, distributed over the southern two-thirds of the Coastal Plain; and Accokeek and Popes Creek, typically recorded in the Coastal Plain and Piedmont region of Maryland, suggests that the project area was situated within a significant zone of cultural and technological influence affected by exchange routes that spanned the length of the state and from the western shores of the Chesapeake Bay to the Delaware Bay. The temporal span of the ceramic assemblage, extending from 1000 B.C. to A.D. 1600, reflects the flourishing development and changes in style and techniques of ceramic manufacture during the Woodland I and Woodland II periods. A detailed examination of the ceramic collection may yield stylistic trends distinct from the time and space distributions of the recognized typologies in the Middle Atlantic region.

The stone tool collection is by no means less informative. The projectile points recovered during the archaeological investigation of the Area 1 LOD reflect a similar temporal period of manufacture as that observed in the ceramic artifacts, as well as a similar diversity in styles.

Hunting and faunal processing was evident activities within the LOD, based on the recovery of projectile points, scrapers, utilized flakes, and cobble/pebble tools. A sandstone shaft abrader suggests that the manufacture of spears or arrows possibly occurred in the LOD. Examples of quartz and quartzite hammerstones reflect processing of faunal resources or use in stone tool manufacture.

Not surprisingly, local jasper, quartz, quartzite, and chert gravels were utilized extensively for tool manufacture. A local gravel study conducted for the Data Recovery at the Hickory Bluff site identified quartz (45.74%), quartzite (18.56%), sandstone (18.37%), and jasper (13.73%) as the predominant lithologic types recovered from the underlying substrate. Only eight chert pebbles, and no argillite or rhyolite material, were found in that sample, leading the archaeologists undertaking that study to suggest that tools manufactured from these lithic materials at Hickory Bluff were manufactured from imported raw material (Petraglia et al. 2002:13-7).

As seen in Table 21, excavations conducted within the Area 1 LOD recovered a total of 104 chert artifacts. While no gravel study was conducted in the project area, the presence of tested chert pebbles/cobbles, primary flakes exhibiting water-worn cortex, one early stage and one late stage biface fragment, and three cores in the Area 1 LOD suggests that this lithic material was a locally available, easily accessible raw resource, albeit represented in much smaller quantities than jasper and quartz. Chert pebbles were observed with some irregularity on the exposed ground surface in Area 1 and across the remainder of the project area, illustrating the availability of usable clasts for tool production. The lithic debris recovered from a 20.0-meter by 40.0-meter area in the southeastern corner of Area 7 and that portion of Locus 2 located within the Area 5 LOD contained a similar assortment of jasper, quartz, and chert materials, with examples of primary flakes and tested cobbles containing water-worn cortex. These reporesented the remains of lithic procurement/production features associated with the larger prehistoric site within the study area. Rhyolite and argillite, in general, represent a very small portion of the debitage collection, but do illustrate the transport of non-local resources through exchange networks extending beyond the Delmarva Peninsula.

Table 21. Chert Distribution by Artifact Type Within the Area 1 LOD.

ARTIFACT TYPE	COUNT	PERCENTAGE IN COLLECTION
Flake Fragment	7	6.7%
Primary	13	12.5%
Secondary	21	20.2%
Shatter	5	4.8%
Tertiary	39	37.5%
Tested Pebble/Cobble	5	4.8%
Unclassified	6	5.8%
LSB Fragment	1	1.0%
ESB Fragment	1	1.0%
Core	3	2.9%
Projectile Point	2	1.9%
Scraper	1	1.0%
TOTAL	**104**	**100.0%**

Further analysis of the lithic types from Area 1 revealed interesting properties in some of the jasper/chert material. Inspection of the jasper/chert assemblage identified several flakes, worked cobbles, bifaces, and cores exhibiting variegated colors and patterns in the interior matrix. A worked cobble recovered from the surface collection in grid cell 15C, located outside of the LOD, exhibited a yellowish brown and red concentric banded interior and black cortex. The surface collection in grid cell 8P, also found outside of the LOD, produced a core exhibiting gray to dark grayish brown concentric banding and a light grayish brown cortex. The plowzone horizon in TU N576 E539 and the surface collection in grid cell 15I, both found within the LOD, produced a tested cobble and an early-stage biface, respectively, exhibiting yellowish brown and dark brown mottled interior with a whitish brown to light whitish yellow cortex. TU N560 E570, Stratum II (E), Level 1 (34.0 to 50.0 cmbd), situated outside of the LOD, yielded a secondary flake containing red, bluish gray, olive brown and dark brown hues. A small selection of flakes, a total of 20 artifacts in all, evidenced similar combinations of colors and patterns in their interiors.

To put this in perspective, mottled and veined jasper/chert is observed in archaeological collections throughout Delaware and is generally considered to represent material available in the Columbia Formation or quarried from the Iron Hill and Hardyston outcrops (Petraglia et al. 1998:162; Petraglia and Knepper 1995; Petraglia et al. 2002:13-109; LeeDecker et al. 2005; Knepper, personal communication, February 2006). The Columbia Formation underlies the Frederica project area, and the gravels and cobbles found within it would have provided an abundant source of raw material for stone tool production. Given the proximity of the Murderkill

River, Spring Creek, and the spring-fed drainage extending along the western edge of Area 1, it is anticipated that bank cuts and escarpments would have provided access to the larger, deeply buried cobble deposits, similar to raw resource procurement trends observed at the Hickory Bluff and Puncheon Run sites. This is suggested by several of the variegated artifacts, as well as in the general lithic collection, by water-worn cortex absent of the whitish color typical of the chemical reaction associated with a near-surface environment (Ramsey, personal communcation, February 2006). Artifacts with whitish rind were recovered during this study as well, indicating the use of raw materials found near the surface. However, the recovery of such a diversely patterned and colorful collection of jasper/chert artifacts within and outside of the Area 1 LOD not only suggests a local source of the material, but possibly a preference for this material based on certain cultural attributes (color, pattern, location of acquisition, etc.) (Griffith, personal communcation, February 2005).

Another source for the deeper cobble material, and possibly for several features observed in Area 1, may be associated with periglacial effects. In 2001, Hugh French and Mark Demitroff published a paper discussing the origins of 'spungs' in the Pine Barrens region of southern New Jersey. The authors postulated that these shallow enclosed depressions were initially formed in the Late-Pleistocene by strong winds that carved deflation hollows where tundra vegetation was sparse or absent. According to them, the presence of soil deformation features, such as wedge casts and cryoturbation, implied that permafrost or deep seasonal frost extended as far south as the Pine Barrens in Late-Pleistocene times. Additional detailed studies by French, Demitroff and Forman (2003, 2005) described these complex sedimentary deformation features and relic sand wedges and provided examples of these resources from the Pine Barrens region of New Jersey and across the Delmarva Peninsula. These deformation features included "amorphous (involuted) bedding, downward-penetrating tongues of finer-grained sediment, and sediment-filled 'pots' or kettle-like depressions" (French et al. 2005:173).

From a general perspective, these soil deformation features are created by a process of permafrost degradation (melt) resulting in soil instability and infilling or crevices and cracks created by frost contraction. In particular, Feature 8, a 1.8-meter long, 1.0-meter wide, and 1.2-meter deep oval feature located outside of the Area 1 LOD, exhibited a profile similar to

sediment “pots” or “thermokarst kettles” (French et al. 2005:179). This feature produced a paucity of cultural materials in the matrix despite its large size. The excavation of Feature 8 exposed a strong brown (7.5YR 5/6) sandy loam Bt-horizon containing 20 percent gravels in the bottom 40.0 to 50.0 centimeters of the soil profile, with a gravelly, coarse yellowish brown (10YR 5/6) sand observed at the very bottom of the feature. This last soil horizon, likely a C-horizon, was not fully examined due to infiltrating groundwater. While the Feature 8 matrix bears no resemblance to the pot sediments described by French et al. (2005:179), the depth and shape of the feature, the profile of the surrounding subsoil matrices, and the presence of gravel-rich deposits in the Bt- and C-horizons possibly reflects cultural use of a natural soft soil deformation to access raw materials for tool manufacture.

Feature 8 is not the only example of potential cultural use of soil deformations. The excavation of Feature 1, located within the Area 1 LOD, yielded a pocket of gravelly, very coarse yellowish brown (10YR 5/6) sand embedded within the Bt-horizon at the very bottom of the feature (Photograph 31). This pocket of coarse sand was similar in texture and gravel content to that observed within the C-horizon at the bottom of Feature 8. No excavations were conducted to discern if the coarse sand material became more prominent with depth. It is not certain if the coarse sand deposit in the bottom of Feature 1 represents a natural high spot in the C-horizon, but the shape of feature, a large oval, is similar to that noted in Feature 8, although the overall depth of Feature 1 is less than Feature 8. Both features exhibited a uniformly thick E-horizon surrounding the matrix, suggesting that historic plowing did not severely deflate the soil profile in the area of Feature 1.

The excavation of TU N590 E554, located within the Area 1 LOD, exposed a sandy anomaly in the southwest corner of the unit. This anomaly exhibited characteristics similar to the “downward-penetrating tongue of finer-grained sediment” observed by French et al. (2005:173) in the Pine Barrens. Unfortunately, no further excavations were conducted in the adjacent test unit to fully expose and sample this soil anomaly. Finally, TUs B and G, located within the LOD in Area 5, contained a brownish yellow (10YR 6/6) coarse sand soil deformation, similar to that observed in TU N590 E544 in the Area 1 LOD, and a narrow band of light reddish brown (2.5YR 6/3) sandy loam (Photograph 67). The anomalies in TU N590 E554 and TUs B and G are

not associated with any cultural disturbances, unlike Features 1 and 8. Their possible origins as hydric features may be linked with the subsequent rise in the groundwater table brought about by a post-glacial rise in the sea level, suggested as the source for water found in bay-basin features (French and Demitroff 2001:348). Interestingly, a potential bay-basin feature is present on the south side of the Murderkill River and east of SR 1, just south of the current project APE, but no formal studies were conducted of this surface feature to verify its nature and origin.

The context of the archaeological deposits in the Area 1 LOD, the portion of Locus 2 in the Area 5 LOD, and the prehistoric resource identified in Area 7 offer an interesting insight into the prehistoric utilization of the study area. Excavations uncovered varying levels of integrity, with the dominant historic disturbances associated with the agricultural use of the property. Overall, the bulk of the prehistoric artifact collection was recovered from the plowzone horizon. Horizontal and vertical distribution trends in the prehistoric artifact assemblage indicated discrete concentrations of jasper, chert, quartz, quartzite, and rhyolite lithic debitage. In Area 1, these clusters corresponded to the location of subsurface features, such as Features 1, 3/3A, and 11, interpreted as lithic reduction activity areas. Feature 5, interpreted as a middle Woodland I period nutmeat storage pit excavated into Feature 5A, an early Woodland I period lithic reduction workstation, illustrates feature reuse in the Area 1 LOD, as well as evidence of seasonal resource gathering. While the identification of subsurface features associated with foodstuff storage pits and lithic reduction activities is not unusual in prehistoric sites in the Middle Atlantic region, the limited area of exposure in the archaeological investigation of the Area 1 LOD suggests that the LOD contains a diverse assortment of undocumented subsurface features associated with Native American occupation of the project area.

It is not clear from the archaeological excavation of the Area 1 LOD if the surface-collected artifact loci identified during the Phase IB survey of Area 1 represent activity areas associated with the subsurface features. Feature 5/5A and Feature 11 correspond to a concentration of prehistoric artifacts, designated Locus 3, found during the surface collection of Area 1 in the Phase IB survey of the project study area (Figure 19). A total of 32 FCR fragments, two flakes, and a small assortment of historic artifacts were recovered from the surface collection of grid cells 12-I, 13-I, 12-J, and 13-J, which encompass Feature 5/5A. However, Feature 5/5A did not

produce any extensive charcoal, burnt earth, or FCR deposits indicating a hearth feature. The presence of a small sample of charred wood and nutshell fragments in Features 5 and 5A, interpreted as a nutmeat storage pit intruding into a lithic reduction workstation, along with the FCR recovered in the surface collection, may represent the remains of a cooking activity area located in the unexposed portion of Locus 3 adjacent to Feature 5/5A. A large number of hickory nutshell and wood fragments were encountered in Feature 11 as well, but these floral remains likely represent plow-dispersed organics distributed into the underlying subsoil and the thin feature matrix, again possibly associated with an unexposed hearth feature in Locus 3. In addition, the surface collection of grid cells 13-M, 13-N, 14-M, and 14-M, which encompass Feature 11, did not yield any trends in lithic artifacts reflecting the debitage and tools found within Feature 11 and the surrounding subsoil. This trend may be seen as a bias due to artifact size and visibility when compared to the recovery of FCR.

Conversely, Features 1 and 3/3A were located in an area between Locus 2 and Locus 6, an area that yielded minimal prehistoric artifacts counts during the surface collection. Both features produced small to moderate artifact counts, as did the surrounding plowzone and subsoil horizons. It appears that the low to moderate artifact density in Features 1 and 3/3A were possibly reflected in the low artifact counts of the Phase IB surface collection. However, as was pointed out with Feature 11, the minimal artifact count in the surface collection may be the biased result of smaller lithic debitage being missed rather than an absence of artifacts. Loci 2 and 6, situated to the north and south, respectively, of the Area 1 LOD and Features 1 and 3/3A, were not studied sufficiently to determine the presence or absence of subsurface features relative to surface collection concentrations.

Feature 8, a large, deep pit bearing a surprisingly small complement of artifacts, was found outside of the Area 1 LOD and approximately 20.0 to 25.0 meters from Loci 5 and 6. Feature 10, also interpreted as subsurface disturbance associated with Native American occupation in the project area, is located outside of the Area 1 LOD. Features 2 and 4, located within the LOD, and Feature 9/9A, located south, and outside, of the LOD, are interpreted as root/rodent disturbances. While Feature 10 is located within Locus 1, and Feature 8 is between Loci 5 and 6, there is no clear evidence linking these two features to the surface-collected artifact concentrations.

However, the proximity of Features 8 and 10 to the Area 1 LOD, and the wide horizontal distribution of the exposed features across Area 1, suggest that the LOD contains many more undocumented subsurface features.

It appears that the loci identified in Area 1 are temporally distinguishable. Granted, the bulk of the subsurface excavations were conducted along the centerline of the proposed roadway in the LOD and did not provide maximum coverage of the entire Area 1 landform. However, the recovery of the middle Woodland I period Accokeek ceramic sherds in Feature 5/5A, and the presence of Woodland I and Woodland II diagnostic artifacts in the surface collection of Locus 3, reflect discrete areas temporally linked to a middle Woodland I through Woodland II period of occupation. Interestingly, Locus 1, situated at the northern end of Area 1, and outside of the LOD, yielded Archaic period projectile points in the surface collection, as well as a steatite vessel fragment in the Ap-horizon of TU N660 E519. While no features were identified in Locus 1, the recovery of Archaic period artifacts within a limited area suggests the potential for identifying Archaic period subsurface features within this locus.

The archaeological investigation of that portion of Locus 2 located within the Area 5 LOD identified temporally undiagnostic prehistoric cultural materials dispersed within the Ap-horizon and the top 10.0 centimeters of the underlying E-horizon. The prehistoric artifact collection included a small assortment of debitage, a jasper utilized flake, a jasper tested cobble, a chert tested cobble, a quartz biface, and several fragments of FCR, materials reflective of raw resource procurement, stone tool manufacture/maintenance activities and hearth features. The vertical and horizontal distribution of the prehistoric artifacts yielded little information regarding temporally discrete episodes within Locus 2. In addition, no evidence of discrete deposits associated with cooking, food processing, tool maintenance, or other artifact-specific activities was noted in the distribution of the prehistoric assemblage. One prehistoric ceramic sherd, a cord-impressed exterior ware tentatively identified as Minguannan (A.D. 1000 to 1600), was recovered from the Ap-horizon in TU G, but this one piece of pottery was found over 30.0 meters east of Locus 2 and cannot be directly associated with the locus.

Overall, the distribution of the artifact collection suggests that secondary deposition through historic and modern plowing redeposited much of the collection from its original context. The prehistoric artifact assemblage was recovered with mid-eighteenth- through early-twentieth-century artifact collection and a scattering of modern refuse within the Ap- and E-horizons. While the E-horizon produced three pieces of lithic debitage and a tested jasper cobble, no cultural materials were identified in the Bt-horizon. The presence of a light prehistoric artifact scatter in the upper subsoil horizons in Locus 2 is likely only a fraction of the original vertical limits of the site, which was probably truncated by historic and modern plowing activities. Also, no cultural features associated with hearths, subterranean structures such as pit houses or storage pits, or other subsurface deposits were identified within the limits of Locus 2 or within the Area 5 LOD. The few artifacts recovered from the Ap- and E-horizons represent general refuse and tool forms typical for procurement and manufacturing sites.

A 20.0- by 40.0-meter area of lithic debris identified in the southeastern corner of Area 7 probably represents an isolated lithic acquisition site where local water-worn gravels were collected. However, it could also have been an activity area within a larger prehistoric site. The majority of the artifact assemblage collected in this area was recovered from the Ap-horizon, with a trace amount found in the top of the E-horizon, suggesting that any intact features or deposits were impacted by historic plowing and dispersed into the plowzone. No subsurface features, soil stains, or diagnostic artifacts were observed in the excavations.

Based on the recovery and analysis of the soil morphology and artifact collection for the 1.25-hectare Area 1 LOD, that portion of Locus 2 located within the LOD in Area 5, and a 20.0 by 40.0-meter area of lithic debris identified in the southeastern corner of Area 7, the following recommendations regarding eligibility for inclusion in the National Register of Historic Places was made by A.D. Marble & Company.

The Area 1 LOD is eligible for inclusion in the National Register of Historic Places under Criterion D because of its potential to yield new information important in prehistory or history. The Phase I/II archaeological investigation of the Area 1 LOD identified four subsurface features associated with Native American occupation and activity areas within the LOD, as well as two

subsurface features outside of the LOD. Features 1, 3/3A, and 11 are interpreted to represent lithic reduction work stations using local jasper, chert, quartz, and quartzite gravels as the primary raw material. In the case of Features 3/3A and 11, the recovery of discrete deposits of argillite and rhyolite, respectively, illustrate distinct episodes using non-local material. Feature 5/5A was interpreted as a middle Woodland I period nutmeat storage feature intruding into a lithic reduction activity area. The wide horizontal distribution of the features and diversity of feature use suggest that the LOD contains additional undocumented subsurface features.

A comparative analysis of the surface-collected artifact loci from the Phase IB survey and the artifact assemblages recovered from subsurface features in the LOD exposed during the Phase II investigation identified similarities in horizontal distribution and temporal association between the two resources. While this correlation was based on the comparison between Feature 5/5A and Feature 11 with Locus 3, the recovery of Archaic period artifacts in Locus 1, despite the absence of features, does suggest the presence of intact Archaic period archaeological deposits in this area, and temporally discrete activity areas across Area 1. In addition to the presence of features, the recovery of a temporally and geographically diverse assortment of prehistoric ceramics suggests that the Area 1 LOD was part of a dynamic cross-road of exchange and settlement extending throughout the Delmarva Peninsula and into the Coastal Plain/Piedmont region of Maryland. The Area 1 LOD has the potential to provide new information regarding settlement patterns and exchange networks; technological influences on stone tool and, possibly, ceramic manufacture; transitions in cultural practices due to population growth and/or exogenous influences; and resource procurement strategies.

Finally, current research into past environmental conditions of the Pine Barrens region and contemporaneous settings on the Delmarva Peninsula suggests that the project area was subject to Late Pleistocene periglacial conditions. These climatic conditions would have fostered open woodlands and tundra-like settings subject to strong winds and permafrost or deep seasonal frost horizons, extending into areas further south than was recognized previously. Deflation hollows, created when strong winds carved shallow depressions in sparsely vegetated locales, and other soil deformations would have resulted from the arid, cold climate. Several features and soil anomalies exposed within and outside of the Area 1 LOD, as well as in Area 5, provide possible

indicators of permafrost soil deformations and cultural use of these anomalies. It is assumed that much of the cobble material identified in archaeological contexts was collected, from bank cuts, escarpments, and other deeply incised drainages along the Muderkill River and its tributaries during the Archaic period, before the river valley slowly flooded and transitioned into an estuarine environment. However, the exposure of gravel-laden deposits at the bottom of Features 1 and 8 may indicate the use of natural soil deformations to access raw materials, as the softly packed soil in the deformations would have been much easier to excavate compared to the surrounding densely packed subsoil. Further analysis of these two features, as well as of other unrecorded features, has the potential to confirm that a permafrost environment existed as far south as southern Kent County, Delaware, and that these deformation features were possibly exploited as sources of raw materials for stone tool manufacture.

Locus 2, Area 5, is not recommended eligible for inclusion in the National Register of Historic Places. This undated concentration of prehistoric debitage and tools was recovered predominantly from the plowzone horizon, with a small count of artifacts found in the upper level of the E-horizon. The prehistoric artifact assemblage suggests that Locus 2 represents a redeposited lithic procurement and tool manufacturing workshop. There is no clear evidence linking Locus 2 in Area 5 to Locus 3 in Area 1, and Locus 2 may in fact represent a separate resource. Similar procurement and manufacturing sites that yielded prehistoric cultural materials in temporally stratified deposits were recorded in the surrounding project area and represent better sources of cultural, technological, and environmental information for the Native American occupation of Delaware than Locus 2 (Petraglia et al. 1998, 2000; LeeDecker et al. 2005; Riley et al. 1994; Riley, Watson, and Custer, 1994; Custer, Riley, and Mellin 1996). Locus 2 does not have the potential to yield new information important in prehistory or history.

Given the high frequency of jasper secondary flakes in the collection, as well as two tested jasper pebbles, one jasper shatter, and a chert cobble tool, the 20.0 by 40.0-meter area of lithic debris identified in the southeastern corner of Area 7 represents a small, short-term raw resource procurement and lithic reduction/maintenance site. The small number of debitage reflects a brief period of occupation focused on obtaining and processing local gravel sources, as suggested by several water-worn cortex primary and secondary flakes. The absence of subsurface features

attests to the short-term nature of this activity, and the lack of diagnostic artifacts prohibits assigning a temporal association to the resource. In addition, better resolution of the original horizontal and vertical distribution of the debitage was compromised by historic and modern plowing. As a consequence, the opportunity to define any lithic reduction sequences or trends and to provide new interpretations regarding intersite comparative data is significantly reduced. Based on the results of the Phase I/II investigation, this resource does not have the potential to yield new information important in prehistory or history and is therefore recommended not eligible for inclusion in the National Register of Historic Places.

9.2 Historic Archaeological Resources

The Phase II investigation of an early-eighteenth- through mid-twentieth-century brick and ceramic concentration in Area 6, a mid-nineteenth- through twentieth-century architectural and domestic artifact scatter in Area 2, and a 1.25-hectare LOD in Area 1, yielded limited information concerning the historic occupation within the project APE. Archeological testing in Area 1 recovered a large collection of mid-eighteenth- through early-nineteenth-century ceramics, mid-nineteenth- to early-twentieth-century glassware, architectural debris, personal items, and examples of plastic, unidentifiable metal, coal, and other debris predominantly from the plowzone horizon. The ceramic collection strongly reflects wares manufactured from 1730 to 1830, accounting for approximately 77.8 percent of the historic ceramic collection in Area 1. The bottle glass collection produced examples of eighteenth- through nineteenth-century olive bottle fragments, as well as nineteenth- through twentieth-century aqua, solarized, amber, and colorless sherds.

Testing in Area 2 exposed a series of subsurface features ringing the northern and eastern edge of the Soulie Gray House property. Feature 4 evidenced a shallow stain containing mid-nineteenth- to mid-twentieth-century demolition rubble, coal ash, and cinders, as well as a small assortment of contemporaneous domestic artifacts and faunal material. This feature is interpreted to represent a mixture of material associated with a limited burn episode that is related to the demolition of the mid-twentieth-century concrete block and frame barn once located nearby, refuse from mid-nineteenth-century outbuildings, and material generally associated with the historic occupation of the property. Features 5 and 7, located at the northeastern corner of the lot,

consist of a poured concrete footer associated with the mid-twentieth-century concrete block and frame barn on the Soulie Gray House lot. Feature 8, a large, approximately 3.0-meter diameter circular concrete cap, was partially excavated, documenting only the surface of the cap. Feature 6, a partially exposed stain, produced a small assortment of late-eighteenth- through mid-twentieth-century architectural, industrial, and domestic artifacts in an exploratory test trench.

The archaeological investigation of a dense concentration of brick at the western end of Area 6 near the farm ponds identified fragments of handmade brick and mid-eighteenth- to mid-twentieth-century architectural and domestic refuse dispersed among several minor fill deposits, an Ap-horizon, and an E-horizon. The artifact collection included a large assortment of brick fragments, including several large chunks exhibiting portions of corners and faces, including eight fragments that contained glazed faces. None of the brick was recovered as a portion of an intact mortared wall or other architectural feature, only as broken refuse. In addition to the brick, cut nails, ceramics, bottle glass, and coal were also prevalent artifacts types found within the assemblage. The ceramic assemblage yielded an assortment of wares contemporaneous with early-eighteenth- through mid-twentieth-century manufactures. A significant assortment of prehistoric artifacts was recovered from the Ap-horizon and fill deposits as well, including ceramics associated with the middle to late Woodland I and Woodland II periods in prehistory, one early to middle Woodland I period projectile point, debitage, a few tools, and FCR. These materials are indicative of cooking and tool maintenance activities. A historic-period post mold, designated Feature 3B, was uncovered below Feature 3 in TU N519 E497-498, but no foundations, wells, privies, or other subsurface features associated with the historic occupation of the property were identified. In addition, no evidence of intact, discrete deposits associated with food processing, hearths, tool maintenance, or other prehistoric artifact-specific activities were noted in the distribution of the prehistoric assemblage in Features 3, 3A, and 3B.

The distribution of artifacts in Features 3 and 3A suggests that secondary deposition through landscaping and grading activities along the drainage associated with the construction of SR 1 redeposited much of the collection from its original context. The prehistoric artifact assemblage was recovered with early-eighteenth- through mid-twentieth-century artifacts and a scattering of

modern refuse within the fill deposits, the Ap-horizon, and into the E-horizon. No cultural materials were identified in the Bt-horizon.

The historic artifact collection likely represents refuse associated with the occupation of the early- to mid-nineteenth-century Soulie Gray House, but there is some possibility that an earlier domestic site may have been the source of the fill. The presence of creamware, pearlware, and slip trail redware indicates an early- to mid-eighteenth- to mid-nineteenth-century component in the domestic collection, as do the examples of handmade brick in the architectural collection. The ceramic assemblage may be attributable to household crockery and serving pieces passed down through family ties to the nineteenth-century occupants of the Soulie Gray House. However, the historical record does not indicate that the Soulie Gray farm complex contained brick structures, although it is assumed that the main house contained a brick chimney(ies). The demolition of the main house was accomplished by burning the structure and then pushing the remaining rubble into the foundation hole. It is not anticipated that brick from the demolition was graded over the property. Historical background research on the title chain of the Soulie Gray House property indicates that by at least the mid-eighteenth century a brick house was located in the general area of "Loftis's Point." It is not certain from the research if "Loftis's Point" constitutes the portion of the landform within the APE overlooking the confluence of Spring Creek and the Murderkill River, but the handmade brick collection in Feature 3 does appear to match manufacturing methods of the eighteenth-century. Unfortunately, the disturbed context of the fill deposits prohibits defining the eighteenth-century component as associated with the brick house.

Limited interpretations can be made concerning historic occupation within the APE. The frequency of creamware, pearlware, redware, and olive bottle glass in the two historic-period artifact concentrations in the southwest portion of Area 1, as well as the eighteenth-century refuse in the brick concentration at the western end of Area 6, is interpreted to reflect domestic refuse associated with a mid-eighteenth- through early-nineteenth-century domestic occupation. Historic background research suggests that the mid-eighteenth-century brick Thomas Brinckle House possibly existed within the APE at one time. In addition, mid-nineteenth-century maps of the project area depict a structure along the west side of the predecessor of SR 12. The general

mid-eighteenth- through early- to mid-nineteenth-century date of the creamware and pearlware assemblages, as well as the slip-trail and Jackfield redware collection, and the brick refuse corresponds to both the general time period of occupation and building materials used in the house. However, no subsurface features such as wells, privies, foundations, or cellars were identified during the Phase II investigation of Areas 1 and 6 that can positively link the refuse to the eighteenth-century occupation. The deposits in Stratum I; Stratum II; Feature 3, Strata I through III; and Feature 3A, all in Area 6, are interpreted as episodes of graded fill associated with the construction of SR 1. Conversely, the historic assemblage was recovered extensively from the plowzone horizon in the Area 1 LOD. While no evidence of an eighteenth-century foundation was uncovered in Area 1 or Area 6, the distribution of contemporaneous ceramic and brick refuse along the farm pond drainage and the southwestern portion of Area 1, and the mid-nineteenth-century maps, suggest that the Brinckle residence once stood within the APE.

Feature 4 and Feature 5/7, exposed along the northern and eastern edges of the Soulie Gray House lot, are associated with the mid-twentieth-century concrete block and frame barn referenced on the 1963 as-built map, as well as on the 1961 aerial photograph. The age and function of the barn as an outbuilding used on the farm during the last half of the twentieth century are well documented. The research value of these features is limited based on the age and function. Features 6 and 8 were not fully exposed or excavated and it is therefore difficult to define the spatial limits and function of these resources, or their age and context within the farm's history.

The following recommendations concerning eligibility are based on the archaeological investigation conducted in the Area 1 LOD, Area 2 architectural refuse concentration, and the brick concentration in Area 6. Features 4 and 5/7, Area 2, do not constitute a significant resource based on the absence of potential research value with a documented concrete block and frame outbuilding. Feature 3/3A, Area 6, provides little research value as well. While the artifact types found in the fill deposits offer an interesting cross-section of prehistoric and historic material culture, these artifacts were found in a disturbed context and can provide no information regarding the original provenience of the resource. Feature 4 and Feature 5/7, Area 2, and Feature 3/3A, Area 6, do not constitute a significant archaeological site and are not eligible for

inclusion in the National Register of Historic Places. No further investigations are recommended for these resources.

Features 6 and 8, Area 2, have the potential to provide significant research potential, but require further exposure to define the horizontal limits of the resources and additional sampling to understand their age and function. It is suggested based on historic aerial photographs and background research that Feature 8 was situated within or adjacent to an earlier barn on the property. Removal of the cap may provide clues to the feature's age and function within the agricultural complex. Feature 6 is possibly associated with a mid-nineteenth-century meat house, or possibly another activity area, but the lack of definition of its horizontal limits and an inadequate sample of its associated deposits prohibit making that determination. Feature 6 has the potential to provide new understanding concerning feature use, reuse, and adaptation over the period of the farm's occupation, including temporally discrete deposits within the feature matrix.

The historic artifact concentration identified in the Area 1 LOD reflects the cultural debris of an eighteenth-century domestic site. The absence of eighteenth-century domestic features in the Phase I/II excavations of the LOD should not be interpreted as the absence of a site. Rather, the Phase I/II excavations exposed a minimal area within the LOD, approximately 43.0 square meters of the 1.25-hectare LOD, or 0.3 percent. The distribution of the assemblage in the southwestern corner corresponds to a known historic structure depicted on mid-nineteenth-century maps. The deposit also yielded architectural and ceramics types that were contemporaneous with an eighteenth-century brick house reported in the area. Given the diversity of historic artifacts, this resource has the potential to provide new information about early- to mid-eighteenth-century domestic sites in Kent County, consumer patterns, socioeconomic trends, and other useful data, but requires further exposure to define the horizontal and vertical limits of the resource.